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| The introduction of electronic prescription transfer using the Electronic Referral Management System (ERMS) during the COVID-19 pandemic. |
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| Context / existing situation |
| With the emergence of the COVID-19 pandemic and rapid implementation of lockdown, paper prescriptions caused problems for patients’ access to medicines. Paper prescriptions require face-to-face contact and handling of paper, with associated concerns about infection risk. Overnight, clinics became virtual, and deliveries partly replaced face-to-face dispensing. To allow signatureless prescriptions the Ministry of Health issued a temporary waiver on 27th March 2020. Hospital prescribing systems were not NZePS compatible and new systems were urgently needed for patients to receive their medicines in a timely, safe, and secure manner. |
| Planned change |
| To transfer hospital prescriptions to community pharmacies electronically using the Electronic Referral Management System (ERMS), an existing local district system. |
| Methods |
| A multi-disciplinary team across Clinical Pharmacology, Pharmacy, ISG, and local PHO was formed. To fit the requirements set out in the waiver, hospital prescription templates were developed, tested, and linked to ERMS. Workflow changes were mapped, staff training provided and all district prescribers connected to ERMS. All district community pharmacies were trained and connected to ERMS. |
| Measurement of improvement |
| Time to implementation, proportion of prescribers and pharmacies able to use system. |
| Effects of changes |
| It took 2 weeks to implement electronic transfer of outpatient prescriptions. The system was rapidly rolled out across multiple inpatient and outpatient services. All prescribers using Health Connect South and all district pharmacies were able to use the new system. A copy of each prescription is retained in the health record. Staff working in telehealth clinics could prescribe in a timely manner. Patients and staff were kept safe by removing the need for face-to-face contact. Outpatient prescriptions were able to be fully automated within the clinical record, but discharge prescriptions were not because of other workflow requirements. |
| Lessons learnt / implications for others |
| An electronic prescription retains an enduring record, which did not occur with paper. There are a wide range of hospital workflows and patient flows. The requirements of controlled drug prescriptions were limiting, highlighting the need to update this legislation. |

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| Addition of a pharmacist prescriber to a paediatric respite and rehabilitation service |
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| Context / existing situation |
| The Wilson Centre is a paediatric respite and rehabilitation facility, located in a metro area, but drawing patients from across New Zealand. It is a nurse run service, with no prescribers routinely present on site. Although it uses an internet-based electronic prescribing system, there are frequently delays in getting medicines prescribed for residents. This has led to missed, incorrect and delayed doses. |
| Planned change |
| To add a pharmacist prescriber to the Wilson centre team, to ensure that residents have their medication prescribed in a timely and accurate manner. |
| Methods |
| A pharmacist already working within the team met with the key stakeholders to develop a plan. A 3-month trial of pharmacist prescribing was commenced with supervision from the clinical director. |
| Measurement of improvement |
| Number of prescriptions, requests for external prescribers, time taken for a prescription to be legally signed, errors, delays and missed doses. These were compared before and after the implementation of a pharmacist prescriber. |
| Effects of changes |
| The pharmacist prescriber wrote 126 prescriptions. The number of requests for external prescribers dropped from 79 to 15 over a 3 month period. The average time for a prescription to be signed reduced from 4.2 days to <1 day (p <0.05). Errors, delays and missed doses were reduced. |
| Lessons learnt / implications for others |
| The addition of a pharmacist prescriber to the Wilson Centre has had a positive impact and improved the timely and accurate delivery of medication to these residents. There are less than 40 pharmacist prescribers working in NZ with the majority in general practice. This project demonstrates a valuable role for a pharmacist prescriber in improving access to medication, which could be applied to other respite care settings. |

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| WASP – Taking the sting out of training new pharmacists |
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| Context / existing situation |
| In 2014 the Clinical Induction Training Scheme (CITS) was implemented to validate newly hired pharmacists to local clinical processes. CITS was designed around the assumption of prior hospital experience. By 2018-19, we recognised an increasing number of our new pharmacists had little previous hospital experience and a new scheme was needed; one that provided structured clinical skills training as well as validation. |
| Planned change |
| To develop and implement a clinical induction scheme that provides structured training and validation of new pharmacists in ward practices. |
| Methods |
| Informal feedback was sought from new staff and their supervisors on their experience of CITS and their subsequent readiness for independent practice. A group of clinical and education pharmacists worked to develop and test the resulting scheme. |
| Measurement of improvement |
| New pharmacist and supervisor’s confidence and readiness for independent clinical practice on wards. |
| Effects of changes |
| The WArd practices training and validation Scheme for Pharmacists (WASP) was implemented for use with new pharmacists in February 2020 and has been used with 16 pharmacists. The scheme identifies defined clinical activities that need to be performed to Entrustable Professional Activity Level 4 (1). The scheme is flexible and provides different levels of structured training and supervision tailored to the previous experience and expertise of the pharmacist. Learning needs can be identified and included in their ongoing development plan. New pharmacists report being confident in independent practice on their wards by the end of induction. Supervisors reported that they were confident of the pharmacist’s having learned good clinical practice habits and understood local hospital processes. Management have more oversight than in the past of new pharmacist’s capability. |
| Lessons learnt / implications for others |
| A flexible structured training and validation programme for new pharmacists enables their efficient induction into clinical roles. It enables new pharmacists to confidently undertake their hospital pharmacist responsibilities and supervisors to have confidence in their independent work on the wards. |
| References |
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| Reducing the risks associated with heparin infusions at a tertiary teaching hospital |
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| Context / existing situation |
| Our hospital has historically had two protocols for heparin infusions (high and low doses). In 2017 and 2018 we had two sentinel events involving the high dose protocol. A Root Cause Analysis review identified having two protocols as a contributing factor to these deaths and recommended that the current heparin chart was reviewed for the feasibility of including only a single (low) dose protocol. |
| Planned change |
| To implement a single heparin infusion protocol at our hospital to manage the risk of APTT’s being supra-therapeutic within 6 hours of initiation. |
| Methods |
| Initially, to review the feasibility of a single dose protocol we audited 200 randomly selected heparin infusion charts from Adult Health wards in 2019 and made recommendations for changes to the protocol. We then engaged with prescribers in areas that were high users of heparin to test the acceptability of the proposed change and get them on board. The audit was repeated 6 months after implementation. |
| Measurement of improvement |
| Loading dose and top up doses given, time to therapeutic APTT and APTT result at 6 hours post infusion commencement. |
| Effects of changes |
| The initial feasibility audit indicated the high dose protocol could be removed. Following this change, comparison with post implementation data showed that the time to therapeutic APTT had not increased and fewer patients had a supra-therapeutic APTT at 6 hours. This indicated that the removal of the high dose protocol had not compromised safety of any cohort of patient. The introduction of a single protocol has been well received and no adverse events involving heparin have been reported since this change was made. |
| Lessons learnt / implications for others |
| We were able to rationalise heparin protocols using data driven change management. Engaging prescribers in the change of protocol ensured it was acceptable to all services and helped mitigate issues that could have arisen post-implementation. we have successfully reduced the risk of bleeding from heparin infusions without compromising the therapeutic outcome. |